

CHECKLIST FOR COMPLIANCE WITH OSHA LABORATORY STANDARD (CHEMICAL HYGIENE)

Item	Y	N
1. Population Identification		
a. A criterion is established to determine employees that need Laboratory Standard training? <i>[The “New Employee/Guest Orientation” form may be one method of compliance].</i>		
b. Use of chemicals in the laboratory is limited to non-production, small-scale operations. <i>[For additional guidance, see http://www.osha-slc.gov:80/OshDoc/Interp_data/119910208.html, Letter of OSHA interpretation regarding difference between lab and hazard communication, and http://www.osha-slc.gov:80/OshStd_data/1910_1450.html for the OSHA definition of “lab scale.”] Note: Projects at production scale or involving routine tasks are covered under the Hazard Communication Standard.</i>		
c. All laboratory experiments are reviewed for environmental, safety and health problems? <i>[ESH Standard 1.3.5 Experimental Reviews are an ideal mechanism to conduct these hazard determinations.]</i>		
2. Training for identified populations		
a. Workers have received Laboratory Standard (Chemical Hygiene) Training (IND 220) <i>[Retraining every two years is recommended. The audit criteria will be a current understanding of the Lab Standard program and chemical safety by the employee.]</i>		
b. The audit criterion for training is “Performance Based” knowledge of chemical safety. (i.e. Employees can demonstrate chemical and laboratory procedure safety knowledge.) Can Employees provide answers in the following areas? Knowledge of the existence of the Laboratory Chemical Hygiene Plan <i>[i.e. ES&H Standard 2.2.1]</i> and familiarity with the content of the plan. Knowledge of departmental laboratory chemical hygiene plans Knowledge of how to select and use protective equipment and clothing (PPE). Understanding of the limitations of PPE use. Knowledge of how to determine if a hazardous chemical release has occurred in the area. Knowledge of how to obtain assistance to evaluate potential chemical exposures by involving the Occupational Medicine Clinic and the Safety & Health Services Division.		
c. Workers are informed of safety requirements when <u>new</u> hazards are introduced into the workplace.		
3. Hazard Recognition and Control		
a. A review is conducted by the supervisor (or cognizant individual) before the use of chemicals to determine the appropriate protective measures.		
b. Workers follow appropriate protective measures established by their supervisor.		
1. Hoods, vents or other engineering controls are used as necessary.		
2. Gloves, respirators, protective clothing, and other PPE are used as necessary. PPE is cleaned and stored properly.		

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c. Workers/management can demonstrate an appropriate criterion for PPE selection. <i>[For example, how a particular type of glove is chosen. Appropriate sources of information include the MSDS, the CMS chemical hazard reference section (www.esh.bnl.gov/cms), or consultation with SHSD Facility Support Representative. Glove selection is based on the chemical resistance of the glove elastomer to a specific chemical. For selection assistance contact your ES&H Representative for further information.]</i>		
d. Employees and Supervisors understand the “Hierarchy of Controls.” (i.e., “Engineering controls” (hoods, ventilation, guards, etc.) and “Substitution with a less hazardous chemical” are the method of choice when protecting workers. “Administrative Controls” (rotation of workers to limit exposure, shortening the exposure time per day, etc.) are next in order of preference. Last choice is use of personal protective equipment.)		
e. Toxic chemicals, chemicals that have a high vapor pressure, and carcinogens are used in a hood.		
f. Yearly quantitative flow evaluations are done on laboratory fume hoods. <i>[Consult ES&H Standard 2.2.1 and your ES&H Representative for further guidance.]</i>		
g. Lab hoods are used only with the sash height within posted limits?		
4. Chemical Labeling		
a. Original labels are retained on containers and are not altered or removed.		
b. Secondary containers (bottles, boxes, vessels, tanks, etc.) are labeled with the identify of compound(s).		
c. Entrances to work areas that contain hazardous chemicals are posted <i>[BNL placards (ESH Standard 1.10.0) at all laboratory entrances indicate principal investigators, who to contact in an emergency, emergency telephone number, and the hazardous chemicals/ operations used.]</i>		
d. Do all DOE identified carcinogens (ESH Standard. 2.1.1 Appendix C) have the appropriate carcinogen warning label?		
5. Chemical Management / Chemical Inventory		
a. The number and amount of chemicals stored in the laboratory are kept to a minimum. Unneeded chemicals are periodically identified and sent for disposal.		
b. All chemical containers have CMS bar codes or are covered under CMS static inventory.		
c. CMS transfers between chemical contact persons are up-to-date. <i>[If a bar coded chemical container is transferred to a new User or location is the CMS Team notified of this move?]</i>		
d. At disposal of chemicals, bar codes are forwarded to the CMS staff for deletion of chemicals from the inventory. <i>[Is the Inventory maintained current by sending depleted chemical container bar-codes back to the CMS Team for deletion? Experimenters who leave BNL are responsible for the identification and disposal of chemicals before their departure. All CMS records must be reconciled before departure.]</i>		
e. If a chemical container is brought on site through non-standard purchasing methods, the chemical container must be bar-coded?		

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<p>f. Are chemicals stored appropriately?</p> <ul style="list-style-type: none"> - In storage cabinets/shelves (not on bench tops or hoods). - Gas cylinders in specially designated cylinder storage area [<i>Cylinders of compressed gases are handled in accordance with ES&H Standard 1.4.0, "Compressed Gas Cylinder Safety" and 2.1.1 Section 11</i>] - Shelves have retaining lips if open shelf storage is used. - In the appropriate chemically resistant secondary containment (carcinogens, acids, bases). - Flammable liquids stored in approved flammable liquid storage cabinets. (For further guidance see ES&H Standard 4.10.2, "Flammable Liquids: Storage, Use and Disposal.") 		
<p>g. Is chemical compatibility storage routinely reviewed? For further guidelines on chemical compatibility storage. See Appendix B of ESH Std. 2.1.1 and the CMS page http://www.esh.bnl.gov/cms/chemsa-1.htm#cci</p>		
<p>h. Unattended lab operations are discouraged.</p>		
<p>i. Working alone in a laboratory is avoided. Safeguards and Security is notified when a lone worker is in the laboratory and again when she or he leaves.</p>		
<p>j. Laboratory glassware is never used as a food or beverage container prohibited. Conversely, food or beverage containers are not used to store chemicals (e.g., butter tubs, soda bottles, paper cups).</p>		
<p>k. Food storage, eating (including medication), drinking, smoking, chewing gum, and applying cosmetics, is prohibited in the laboratory.</p>		
<p>l. Peroxides and peroxidizable chemical solvents bear the dates when the containers were first received and opened or the dates when retested. See ESH Std. 2.1.1 for guidance. Work with these compounds comply with requirements in ESH Std. 2.1.1.</p>		
<p>6. Material Safety Data Sheet / Shipping of chemicals</p> <p>a. If a material safety data sheet is received with an incoming shipment, it is kept readily accessible to laboratory employees. The BNL on-line MSDS system may be used in place of hard copies of MSDSs.</p>		
<p>b. A MSDS is included with any chemical that is shipped off-site.</p>		
<p>c. A MSDS is developed for chemicals synthesized on site.</p>		
<p>7. Waste Disposal The department/division meets ESH Standard 6.2.0, "Hazardous Chemical Waste Minimization and</p>		